

REMARKS

I. Status

In the final Office Action mailed January 30, 2003, the Examiner noted that claims 1-44 were pending and rejected claims 1-44. The applicant respectfully traverses the rejection.

II. Rejection of claims under 35 U.S.C. § 112, 2nd paragraph

Claims 1-36 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter applicant regards as the invention. The objection is respectfully traversed.

The proper standard for determining whether a claim is indefinite has been set by statute and the courts. Section 112, second paragraph states: "The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention". The primary purpose of the definiteness requirement is to ensure that the claims are written in such a way that they give notice to the public of the extent of the legal protection afforded by the patent, so that interested members of the public, e.g., competitors of the patent owner, can determine whether or not they infringe. *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S., 28-29 (1997). "Only after a thorough attempt to understand the meaning of a claim has failed to resolve material ambiguities can one conclude that the claim is invalid for indefiniteness." *All Dental Prodx, LLC and DMG Dental-Material Gesellschaft MBH v. Advantage Dental Products, Inc.*, 309 F.3d 774, 780 (Fed. Cir. 2002). It is not necessary that a claim recite each and every element needed for the practical utilization of the claimed subject matter and it is entirely appropriate, and consistent with section 112 to present claims to only one aspect of the invention. *Carl Zeiss Stiftung v. Renishaw PLC*, 945

F.2d 1173, 1181 (Fed. Cir. 1991).

In its objection to Claims 1, 9, 19, and 20, the Office Action comments that "simply stating there is a layer with a specific type of aperture does not provide sufficient support for a near field optical apparatus". However, the proper standard required by section 112, second paragraph is not to provide "sufficient support" but rather to particularly point out and distinctly claim the subject matter which the applicant regards as his invention. The Applicants respectfully argue that the claims particularly point out and distinctly claim the subject matter of the present invention because the terms of the claim are supported and defined by the specification. In particular, a conductive plane having at least one protrusion extending into an aperture is rendered definite by the specification, for example, page 23, lines 1-14, page 36, line 18 to page 37, line 2, page 39, page 40, line 11 to page 45, line 20, page 60, line 12 to page 62, line 12, FIG. 1-2, FIGs. 22A-C, FIGs 23A-C, FIG 25A, FIG 26A, FIG. 29, FIG. 33, FIG. 36, as well as other sections of the specification and other figures of the specification. As stated above in the case law, it is allowable to present only one aspect of an invention and not recite every element for the practical utilization of the subject matter. Such elements have been presented in claims 1, 9, 19, and 20 in a way which particularly point out and distinctly claim the subject matter of the invention. (Thus, the claims, being supported by the specification and hence not indefinite, meet the requirements of section 112, second paragraph.)

III. Rejection of claims 1-29 under 35 U.S.C. § 103(a)

Claims 1-29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Claisse et al. in view of Sun et al. Applicants respectfully traverse the rejections for the following reasons.

To support the allegation that Claisse et al. discloses "a conductive layer defining an aperture therein" (claim 1), the Office Action cites to Figure 2 of Claisse et al., and in particular an apparatus of the figure shows a conductive

plane (30) having an aperture (51). However, according to the specification, Figure 2 shows a contact layer 30 (column 3, line 10) with a non-lasing area, or etched region 51 (column 3, line 56). Thus, Claisse et al. is disclosing an etched region in a "contact layer" and not an aperture in a "conductive layer" as recited in the claims of the present invention. The specification of the present invention describes the benefit of the "conductive layer" as follows:

"the use of an aperture 236 surrounded by a conductive metal plane 198, with a protrusion 238 of the conductive metal plane into the aperture, provides good near field localization, together with a higher level of near field brightness than has previously been available in VCSEL devices."

Specification, page 60, lines 12-15

Thus, in contrast to the "conductive layer" of the present invention which provides the benefit of near field localization, the contact layer of Claisse et al. is merely "so constructed as to permit the emission of light from VCSEL 10" (column 4, lines 14-16). Therefore, the Office Action has failed to disclose "a conductive layer defining an aperture therein" as recited in the claims.

The Office Action admits that Claisse et al. does not teach a "protrusion" as recited in the claims of the present invention and offers as evidence of a "protrusion" Figure 6 from Sun et al. which shows multiple aperture shapes. However, as will be shown, Figure 6 and associated text from the specification do not disclose the "protrusion" of the present invention. Column 5, lines 23-39 of Sun et al. teaches an "aperture" which has "arbitrary shape or size". However, none of the drawings of Figure 6 actually show a "protrusion" as recited in the claims of the present invention. (A "protrusion" as defined in the specification is a structure with the conductive plane having at least one protrusion extending into the aperture.) Thus, Figure 6 of Sun et al. which just shows several aperture shapes does not disclose the "protrusion" structure recited in the claims and described in the specification. Thus, the Office action has not met the burden of establishing a prima facie case of obviousness by

not producing a reference disclosing a "protrusion" as recited in the claims. Furthermore, Sun et al. describes an aperture "smoothly circular in shape" (column 5, line 24) and "electrically insulated" (column 5, line 27). Thus, the aperture of Sun et al is not within a conductive plane.

Because, as demonstrated above, the Office Action as not made a prima facie case of obviousness by disclosing evidence for all the elements, the applicants request withdrawal of the rejection.

Assuming, in argument only, that the elements had been disclosed, the Applicants maintain that Claisse et al. and Sun et al. still cannot be combined to render obvious the present invention. The Office Action alleges that it would have been obvious to add a protrusion to the aperture to "limit emission to a particular mode". However, adding a protrusion does not necessarily limit light emission and undue experimentation would be necessary to find a desired shape which does limit light emission. In fact, the aperture provides "good near field localization" and a "higher level of brightness" (the opposite of reducing brightness), for example, as stated in the specification on page 60, lines 12-15 (see quote above). Furthermore, the aperture and protrusion structure of the present invention has been deliberately designed as shown in, for example, FIG. 13 to have the dimensions which produce the power curves shown in the associated graphs of FIG. 13. Thus, the aperture and protrusion structure of the present invention is much more than just an arbitrary shape and form and thus the arbitrary shaped apertures of Sun et al. do not render the present invention obvious.

As regards dependent claims 21-29, the Examiner has not produced a prior art disclosing a "first slot of length L1", "a second slot of length L2", and a "connection region of width W". The Applicants request that the Examiner produce such prior art to establish a prima facie case of obviousness or withdraw the rejection.

Therefore, the present invention recited in claims 1-29 is not rendered obvious by the cited prior art.

IV. Rejection of claims 30-44 under 35 U.S.C. § 103(a)

Claims 30-44 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Applicant's admitted Prior Art Figure 27 in view of Claisse et al and Sun et al. Applicants respectfully traverse the rejections for the following reasons.

This rejection is similar to the above discussed rejection with the addition of Prior Art Figure 27. However, Prior Art Figure 27 only shows, among other features, an emission face (134) comprising a reflective conductive layer (138). As argued above, the references Claisse et al. and Sun et al. do not disclose "a conductive layer defining an aperture therein" (claim 1) and a "protrusion extending into said aperture" (claim 1). The Prior Art Figure 27 only adds to the previous two references an emission face (134) comprising a reflective conductive layer (138). Thus, the Office action has not met the burden of establishing a prima facie case of obviousness by not producing a reference disclosing "a conductive layer defining an aperture therein" (claim 1) and a "protrusion extending into said aperture" (claim 1).

As to claim 37, the cited prior art does not disclose an "aperture smaller than a guide mode".

Therefore, the present invention recited in claims 30-44 is not rendered obvious by the cited prior art.

V. Dependent Claims

The argument and evidence set forth above is equally applicable here. Since the independent Claims 1, 9, 19, 20, 30 and 37 are allowable, then the dependent Claims 2-8, 10-18, 22-29, 31-36 and 38-44 must also be allowable. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed.Cir. 1988).

VI. Concluding Matters

In view of the foregoing remarks, it is respectfully submitted that each of the claims distinguishes over the prior art, and therefore, defines allowable subject matter. A prompt and favorable reconsideration of the rejection along with an indication of allowance of all the pending claims is respectfully requested.

Should there be any remaining questions to correct format matters, it is urged that the Examiner contact the undersigned attorney with a telephone interview to expedite and complete prosecution.

If any further fees are required in connection with the filing of this response, please charge same to our Deposit Account No. 04-1175.

Respectfully submitted,

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